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The Governance Challenges of Mission-Oriented R&I Policy

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Research Working Party

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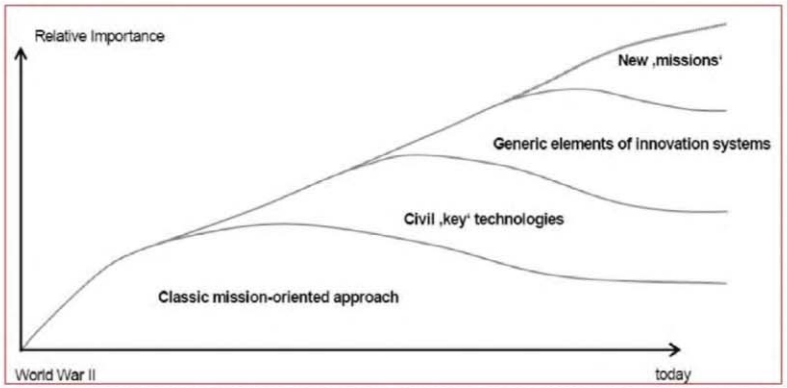
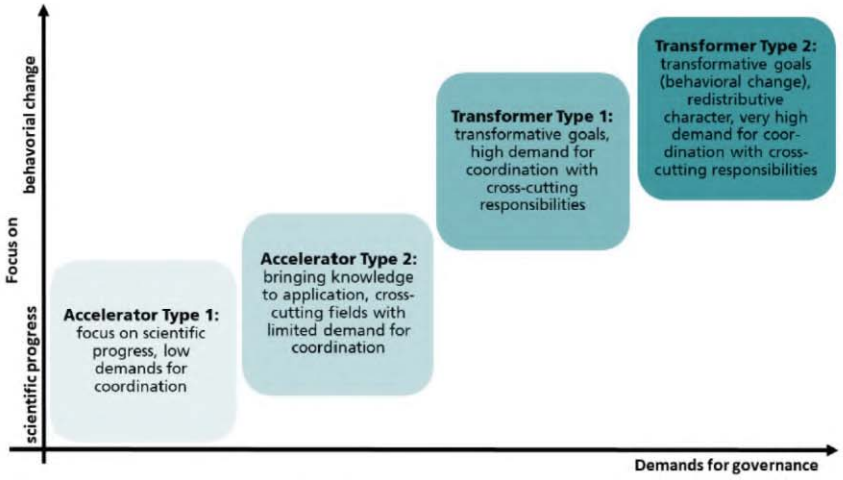
Where we start(ed) from…



Source: Gassler H., Polt W., Rammer C. (2008)

- We have studied what we could learn from the **history** of mission-oriented policy approaches
- We have elaborated (some) **workable definitions** of what Mission-Oriented R&I Policy is / should / could be
- We are confronted with a **number of ‚grand scale' societal challenges** which might be best tackeld by mission-oriented approaches
- …but we are only at the **beginning phases** of (re)learning how to actually implement and govern the new types of missions, currently we are entering the **‚build up / construction / (partly still) experimental phase' of ‚Mission-building'**

Types of Missions and Challenges for Governance



Source: Wittmann et. al. (2020), from: Polt et al. 2021

	Accelerator Mission		Transformer Mission	
	Type 1 (A1)	Type 2 (A2)	Type 1 (T1)	Type 2 (T2)
Type of problem	Market failure	Market and structural failure	Transformational system failure	Transformational system failure
Type of solution	Scientific innovation	Technological/ regulat. change	Transformation of system	Transformation of system (behavior)
Problem vs. goal oriented	Problem-oriented	Goal-oriented	Goal-oriented	Problem-oriented
Demand for governance	Low	Medium	High	Very high

- **Missions differ** considerably in their characteristics and hence **in challenges for their governance**
- Especially so-called **‚transformative missions‘** need to be treated quit differently from (scientific/technological) **‚accelerator‘ missions**

Type of Mission	Goals / Orientation	Predominant style of governance	Challenges	Examples
‚Science / Breakthrough-Missions'	Aiming at **scientific breakthroughs** sometimes, but not always with view to the potential application	**„Oriented (or even targeted) serendipity"** Initiation centralised, implementation more decentral, medium level of aspiration level on coherence (high diversity because of differing groups of actors in the science system, scientific uncertainty)	Interdisciplinary cooperation, scientific/technological uncertainties („ontological expansion")	**Human Brain Project, Quantum Flagship, (Research on) Ebola**
‚Technology / Accelerator' – Missions	Realizing **functioning complex solutions**, which need concerted and massive application of resources	**„flexible/reflexive planning"** Initiation centralised, implementation: often centralised, often with specialised („dedicated") institutions/organisations; high aspiration level w/r to coherence (a functioning artefact/system being the goal)	Planning approach despite uncertainty about availability /feasibility of technological solutions, often with institutionalised links to basic research	**Apollo/Artemis-Mission, civil nuclear powerplants, TGV, Concorde, Battery research**
‚Transformative Missions'	**Change of existing** (large-scale) **socio-technical systems**, involving social, technological, organisational and institutional innovations	**„Goal oriented modulation"** (Kemp et al. 2004) Initialisation: mostly decentral (also central forms conceivable). Implementation: coordiniated, but mostly decentral implementation (multi-level/multi-actor), Governance with experimentation and learning processes; medium aspiration level of coherence, great challenge for coordination because of high complexity, longterm timeframe and large number of actors, adaptive approach needed	Considerable uncertainty about problem, solution and goals, long-term adjustment processes, combination of experimental and ‚framing' approaches, policy coordination together with scaling / generalisation	**German ‚Energiewende', Transport/Mobilitätswende', sustainable and secure water management (NL)**
‚Umbrella-Missions'	Initiatives that follow over-arching goals, including parts which are missions in the proper sense (even of different sorts)	**„Soft guidance"** Initiation decentral, but rather loose bundeling under one umbrella, Implementation: combination of different initiatives, weak coordinative linking , low to medium level of aspiration with respect to coherence	Securing coherence in the absence of strong coordination mechanisms	**German High-Tech-Strategy, global CC research, Adaptation / Mitigation**

Steps and Functions in Mission-Oriented Policy and Governance

Mission Identification

- **Search processes** to find suited ‚Missions Topics/Areas' and adequate missions-types → Technology- and Policy studies, Foresight, Stakeholder processes, links to an international discussions and goal settings [SDGs, ...]

Mission Selection

- **Ex-Ante Assessments** (Risiks, Cost-Benefit Assessments, distribution of effects) → constructive Technology Assessment
- **Political process** involving the relevant stakeholders

Mission Implementation

- **Capacity building** (institutions [e.g. specialised agencies and programmes], administrative instruments [e.g. public procurement, regulation, ...)
- **Design of suited policy-mixes**
- **Governance structures for coherent policy implementation** (Agencies, governing and steering boards, management structures , ...)

Mission Steering

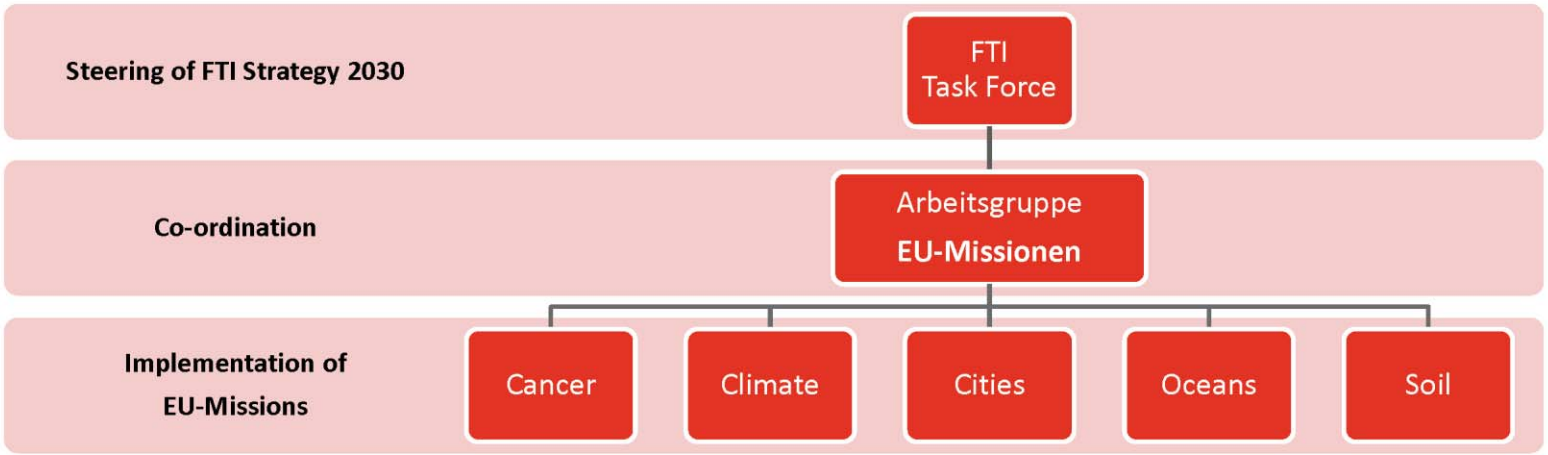
- **Monitoring** (development of indicators and assessment criteria for the succcess) and (interim) evaluations
- **Policy processes needed to ensure reflexivity and flexibility** in responding to changes of framework conditions, technological opportinities, societal demands, ...)

Source: Polt/Weber 2019

An example of a national Governance Structure: Austria

Governance-Strukturen of the WG „EU-Missions“

(est. per decision of the FTI-Task Force from 29. April 2021)



Austrian governance of EU Missions

Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

Ministries of Defence, Agriculture, Digitalisation, ..

Federal Ministry
Republic of Austria
Education, Science
and Research

JOANNEUM RESEARCH POLICIES

Working Group „EU Missions“

Office (Support)

FFG Forschung wirkt

EU Mission Boards

EU Mission Groups

Strategic Programme Committee Horizon Europe

EU Project „Coordination of complementary actions“

ERA Policy Agenda

OECD „MOIP Project“

Advisory Board Foresight & Citizens

Advisory Board Strategic Intelligence

Mission Management Group

*Mission **Cancer** Action Group*

*Mission **Climate** Action Group*

*Mission **Cities** Action Group*

*Mission **Waters** Action Group*

*Mission **Soil** Action Group*

Milestones towards the Austrian Implementation Plan for EU Missions

Country-specificities in implementation of MOIP

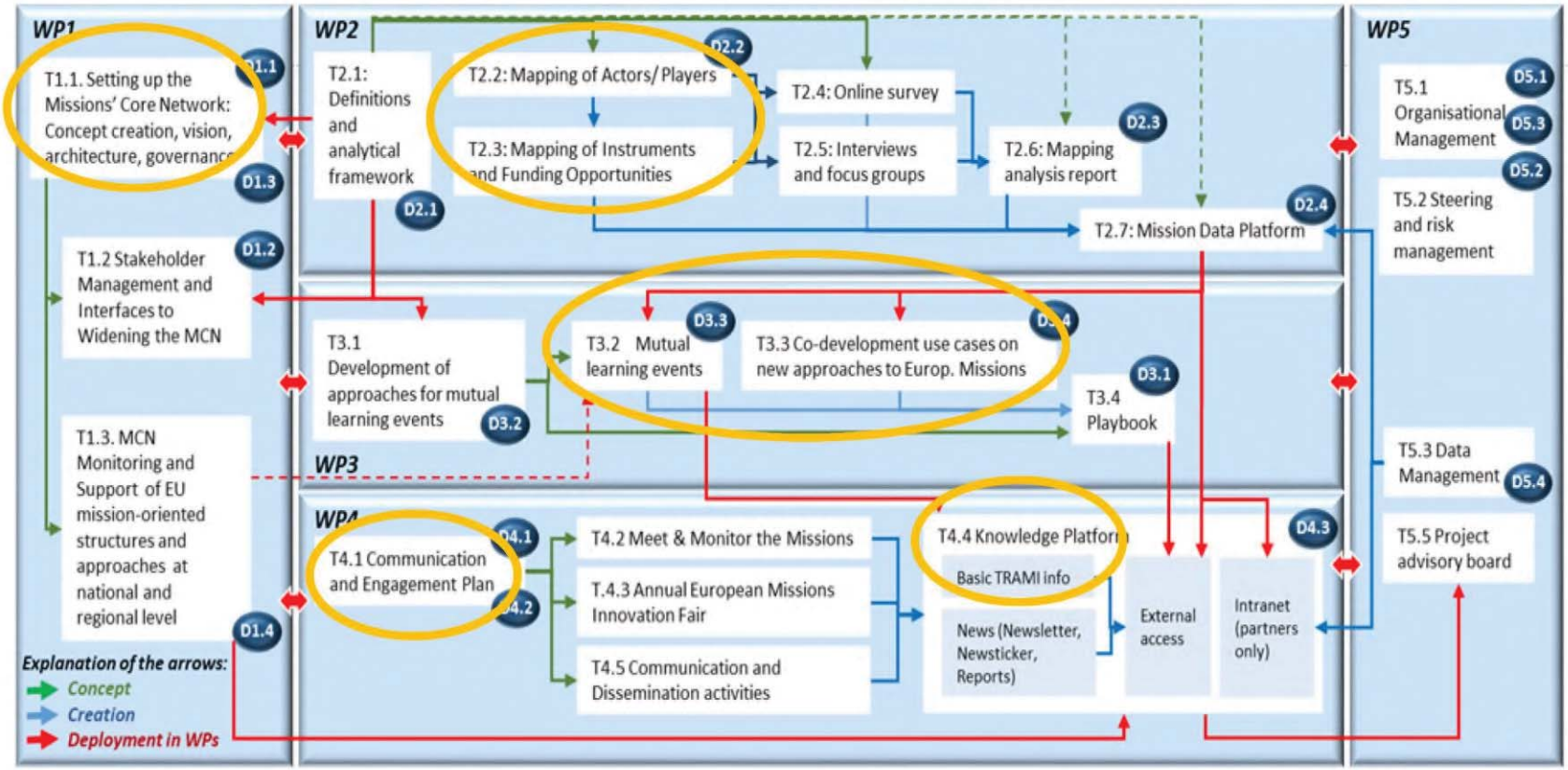
- Each country has its own **‚instituitional / policy trajectory'**
- Instituitions rarely are created from scratch, but evolve with some ‚path dependency'…
- Austria (like Norway or Sweden) is following the ‚interministerial policy coordination cum agency driven implementation' model, DEN, BEL(FLA) with a strong role for regions, …
- …while we know from countries like KOR or JAP that there are more centralised governance models….
- With a strong incentive for international **mutual learning** (OECD, EU, …) and **coordination** (EU, …)

An initiative for coordination of Efforts of Missions' implementation:

the TRAMI (TRAnsnational cooperation on the Missions) project

25 (26) partner from 16(17) MS
Duration: 2Q2022 - 2Q2024

Architecture of the TRAMI project



Architecture of the TRAMI project

- 25 (26) partners from 16(17) MS, mostly administrations and agencies tasked with the implementation of missions
- Duration: 2Q2022 - 2Q2024

Expected Outcomes (i.a.):

- **Shared vision** for Mission implementation at the level of MS and AC
- **Multi-level core network of engaged MS/AC** with a tailor-made governance, co- operation models, roles and responsibilities
- **Map of effective governance approaches and effective instruments** for implementation
- Mutual **learning toolbox**, knowledge exchange and mutual learning events, **co-developed use cases**
- **Knowledge platform**

Challenges and Recommendations for Missions' implementation

- Respect the **differences in mission areas and (national/regional) policy environments**
- Be aware that **missions are not solely or even predominantly ‚R&I Missions'**
- Try to use **all instruments in a coherent way** (IPCEI, CBAM/ETS, …)
- Be serious with missions … not doing the ‚Grillparzer' !
  - Give them **high level political committment (and visibility**)
  - **Endow** missions **with the necessary ressources** (money, admin capacity, …)
  - **Missions are basically about governance** (of economic, technological and societal challenges)
- Engage intensely in **coordination** and **mutual learning** (e.g. TRAMI !)

Thank you for your attention !

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